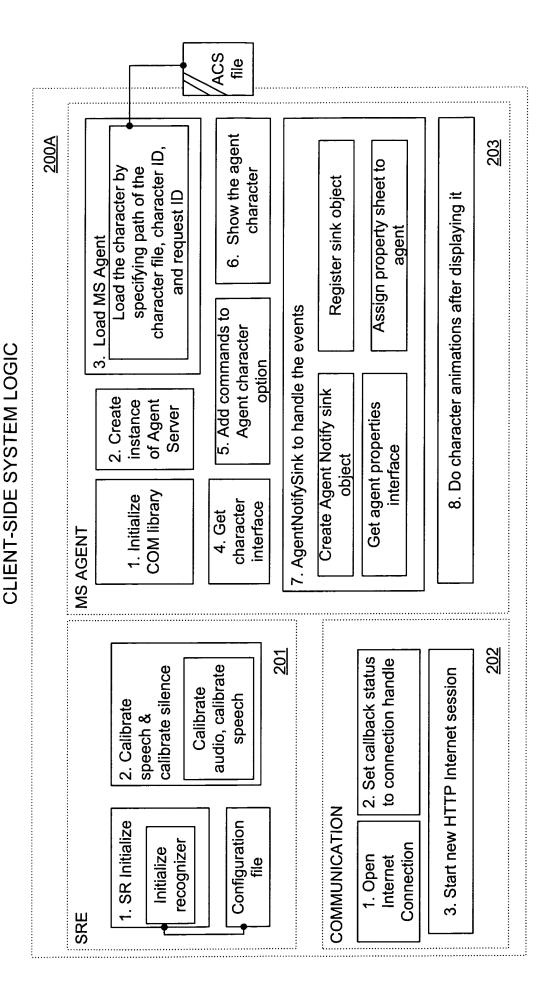


Replacement Sheet Figure 2 (Page 1/3)

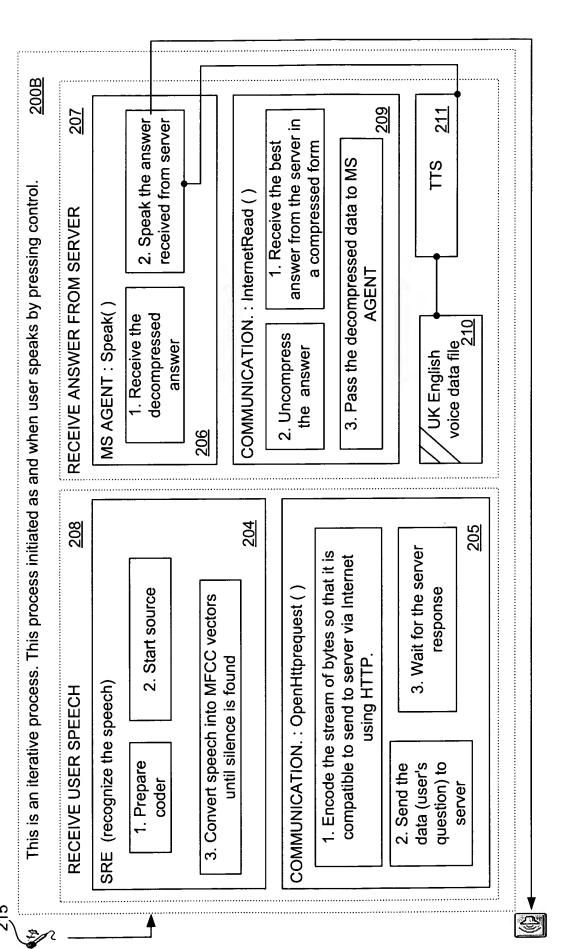






Replacement Sheet Figure 2 (Page 2/3)

CLIENT-SIDE SYSTEM LOGIC





CLIENT-SIDE SYSTEM LOGIC Replacement Sheet Figure 2 (Page 3/3)

200C

UN-INITIALIZATION (performs as and when user quits i.e. closes the web page)

SRE

212

a. Delete the objects initialization process created while

established with

server.

memory assigned to the structure, which b. Deallocate the will be holding the parameters for speech

Close the Internet

created at the time session which is

of initialization

COMMUNICATION 213

MS AGENT

1. Release commands Interface

Close the Internet

handle i.e. the connection

2. Release character Interface

3. Unload agent

AgentNotifysink 4. Release Interface

prop. sheet 5. Release Interface

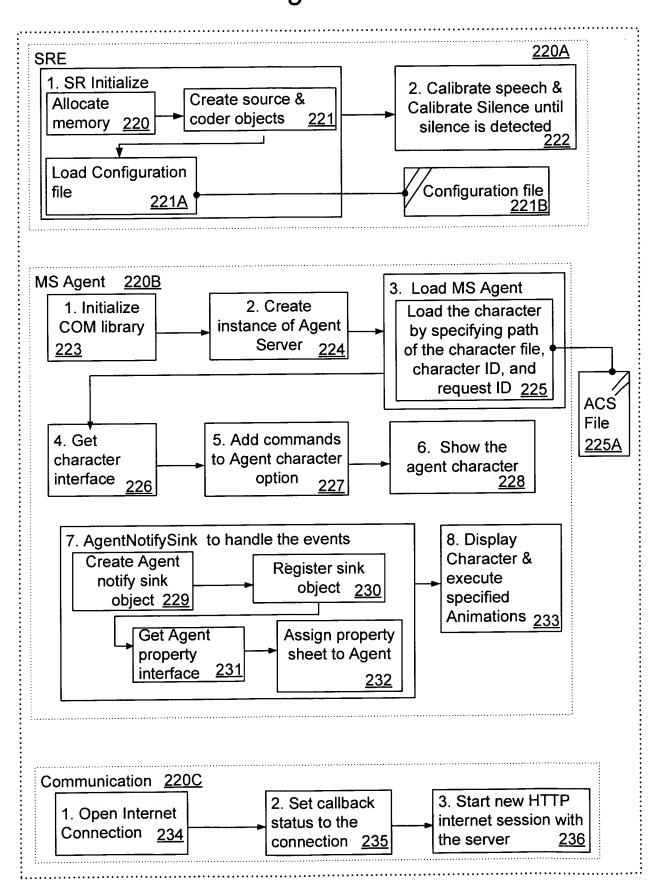
Agent Notifysink 6. Unregister

7. Release Agent Interface

214

Replacement Sheet Fig. 2-2 Client-side Initialization

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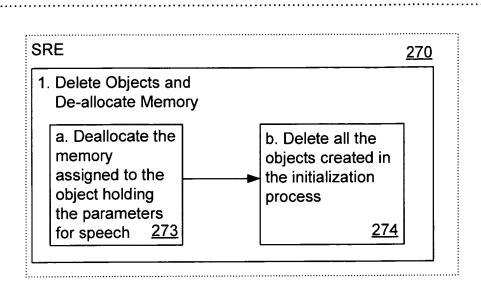


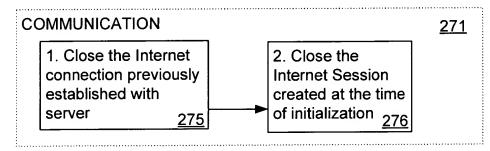
Replacement Sheet Fig. 3 **Encoded** Speech **MFCC** Client-side Iterative Process from User vectors4 Receive User Speech (when User speaks through microphone by clicking on Start button) 240 Communication SRE 1. Encode MFCC 2. Send 2. Start 1. Prepare vectors to make it encoded Source 249 Coder <u>248</u> compatible to data to server₂₅₂ send at server using HTTP 251 3. Convert 3. Wait for speech into response from MFCC vectors server <u>250</u> **253** <u>241</u> 242 Receive Answer (from Server side) <u>243</u> Speak Best 244 **MS AGENT** suitable Answer 1. Receive 2. Articulate the Received Answer uncompressed Answer 254 245 TEXT-TO-SPEECH ENGINE Natural Text-to-Speech Language Voice **Engine** Data File 256 COMMUNICATION 246 3. Pass 1. Receive the Answer to "Best" Answer 2. Uncompress MS Agent from server the Answer (compressed) <u>259</u> <u>260</u>

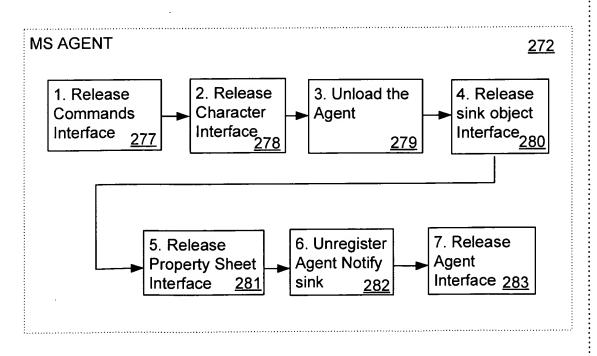
Best Answer from Server

Replacement Sheet Fig. 4
Client-side Un-Initialization

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Replacement Sheet Fig. 4A

Note: course-DB name

604A 009 hold SRE objects 602C assigned to SRE objects 602 Distributed Component of SRE at Server-Side Allocate memory to 602G 602F Load Grammar Deallocate memory Load HMM grammar file name 602E 602B 4. UN-INITIALIZE SRE Load Dictionary Create External 604A Delete SRE Source objects Dictionary file name 602A 602D Create SRE Load SRE 2. INITIALIZE SRE 603 objects Library 603B recognize words **Process MFCC** from MFCC vectors to Recognized speech in the form of text Vectors 3. RECOGNIZE SPEECH 605 course, chapter and 601 Prepare grammar source 603A vectors from Read MFCC section names MFCC vectors and loader file names using external from client .Decode received chapter-table name section-table name Chapter & encoded Course, MFCC vectors Section name

604



Replacement Sheet Fig. 4B

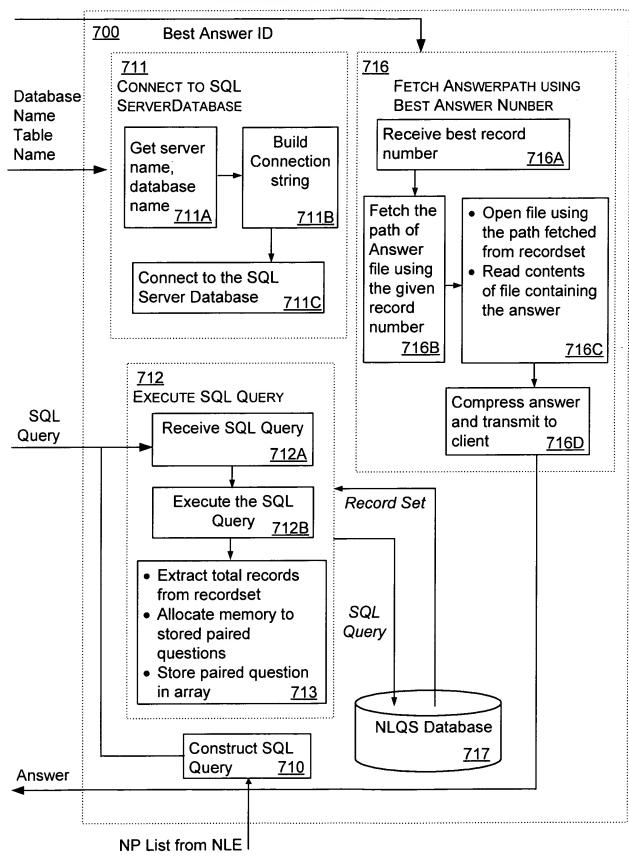
- Table Name

957 words received from NP 954 3.6. Free the memory allocated to store the 3.3. Get the word List present in the Noun Phrase (NP) as much as required for all the words present in the 953 NP Perform this process iteratively to number of NP present in the NP list 3.2. Allocate the memory 956 Build of SQL Query 3.5. Concatenate AND Query after each NP key word to the SQL 951 2. Concatenate table name to the constructed SELECT statement 955 952 words present in the NP words to the SQL Query separated with NEAR () 3.4. Concatenate these 3.1. Get the number of 950 Construct SELECT SQL Customize/Build SQL query **CONTAINS** predicate keyword. statement using the

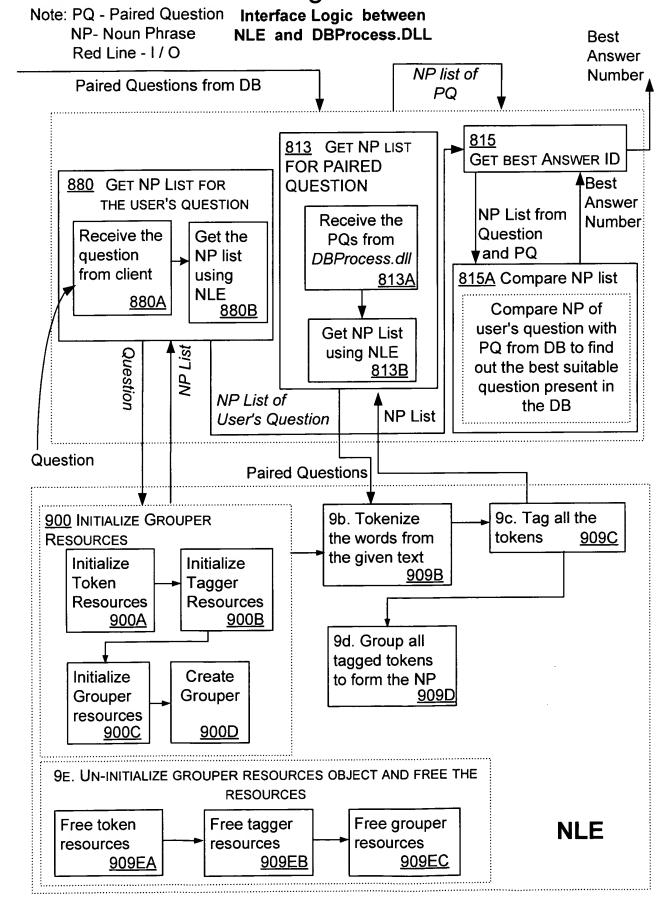
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Replacement Sheet Fig. 4C

Server-side DBProcess DLL

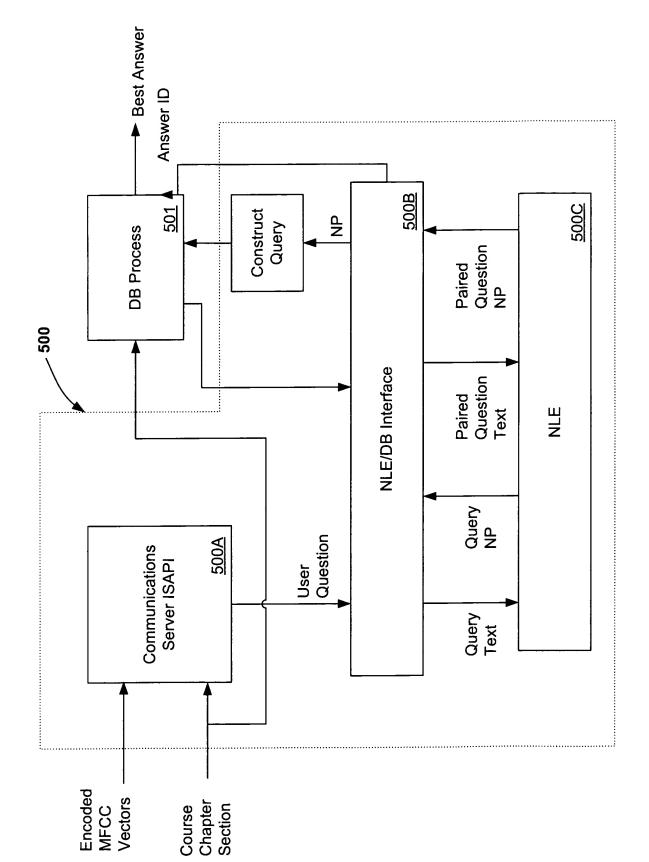


Replacement Sheet Fig. 4D



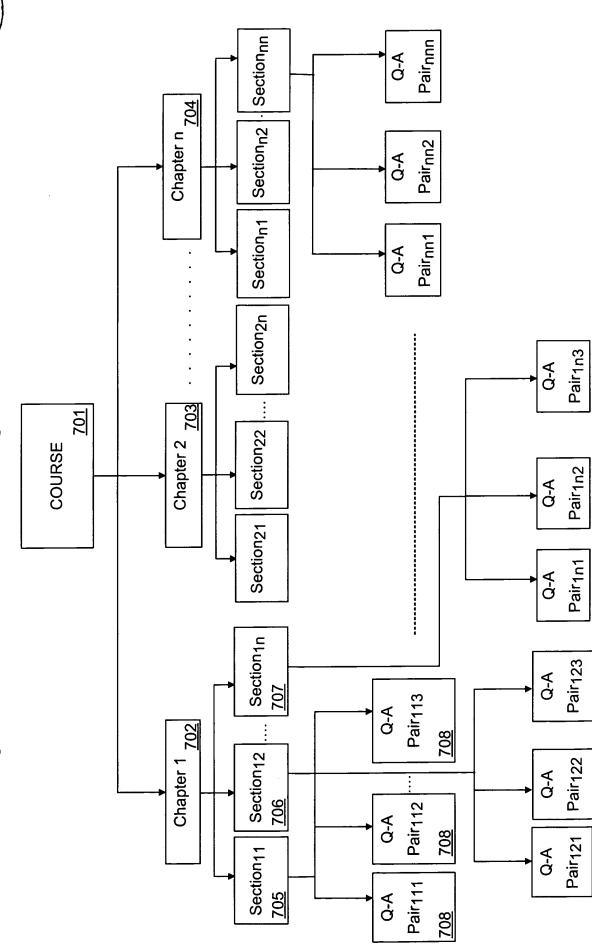


Replacement Sheet Fig. 5





Replacement Sheet Fig.6





Replacement Sheet Fig. 7A

FIELD NAME	DATA TYPE	SIZE	NULL	PRIMARY KEY	INDEXED?
ChapterName 707A	Varchar	255	No	ON	Yes
SectionName 708A	Varchar	255	N _O	OZ.	Yes



Replacement Sheet Fig. 7B

FIELD NAME 720	DATA TYPE 721	Size 722	NULL 723	PRIMARY KEY	INDEXED?
Chapter_ID <u>726</u>	Integer		No	Yes	Yes
Answer_ID 727	Char	5	No	UNIQUE	Yes
Section_Name 728	Varchar	255	ON	UNIQUE	Yes
Answer_Title	Varchar	255	Yes	No	Yes
PairedQuestion	Text	16	ON	ON.	Yes (Full-Text)
AnswerPath	Varchar	255	No	No	Yes
Creator 732	Varchar	50	No	No	Yes
Date_of_Creation	Date	-	No	ON	Yes
Date_of_Modification	Date	-	No	No	Yes



Replacement Sheet Fig. 7C

Field 720	Description 735
AnswerlD 727	An integer - automatically incremented for user convenience
Section_Name 728	Name of section to which the particular record belongs. This field along with AnswerlD has to be made primary key
Answer_Title 729	A short description of the answer
PairedQuestion 730	Contains one or more combinations of questions for the related answer whose path is stored in the next column AnswerPath
AnswerPath 731	Contains the path of text file, which contains theanswer to the rleated qusetions stored in the previous column
Creator 732	Name of content creator
Date_of_Creation 733	Date on which content has been added
Date_of_Modification 734	Date on which content has been changed or modified

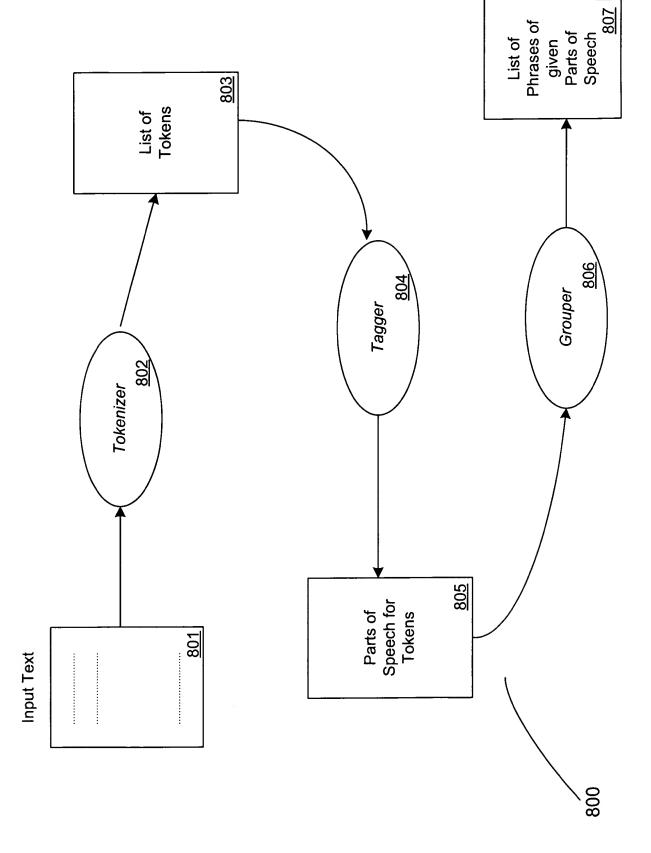


Replacement Sheet Fig. 7D

FIELD 740	DATA TYPE 741	Size 742	NULL 743	PRIMARY KEY 744	INDEXED 745
Answer_ID 746	Char	5	No	Yes	Yes
Answer_Title 747	Varchar	255	Yes	No	No
PairedQuestion	Text	16	No	No	Yes (Full-Text)
Answer_Path	Varchar	255	No	No	No
Creator 750	Varchar	20	No	No	No
Date_of_Creation	Date	•	No	No	No
Date_of_Modification	Date	ı	No	No	No

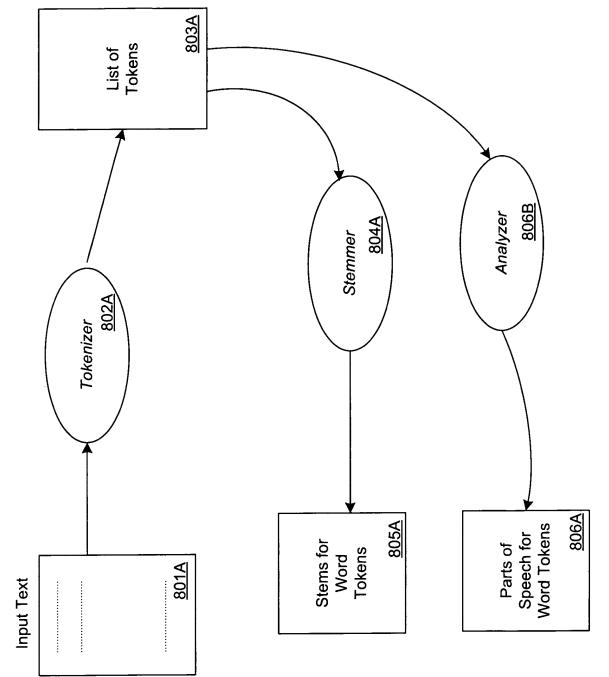


Replacement Sheet Fig. 8



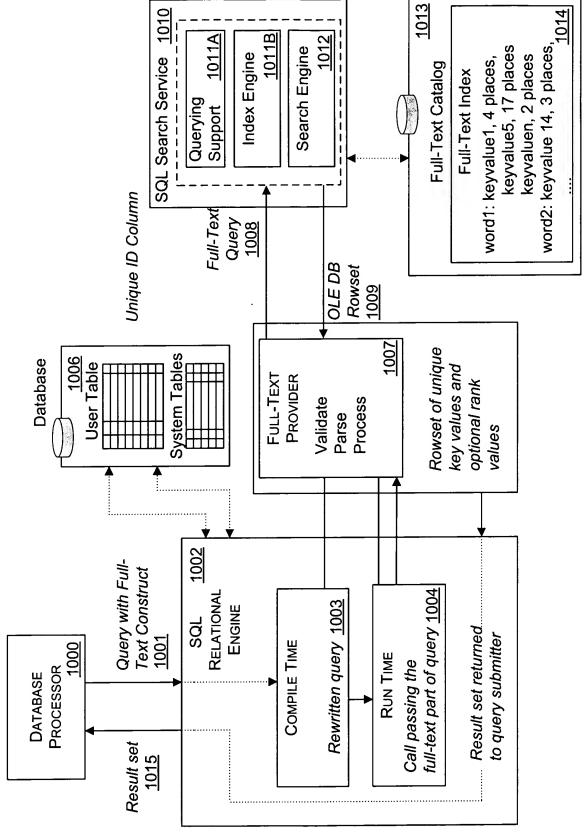


Replacement Sheet Fig. 9



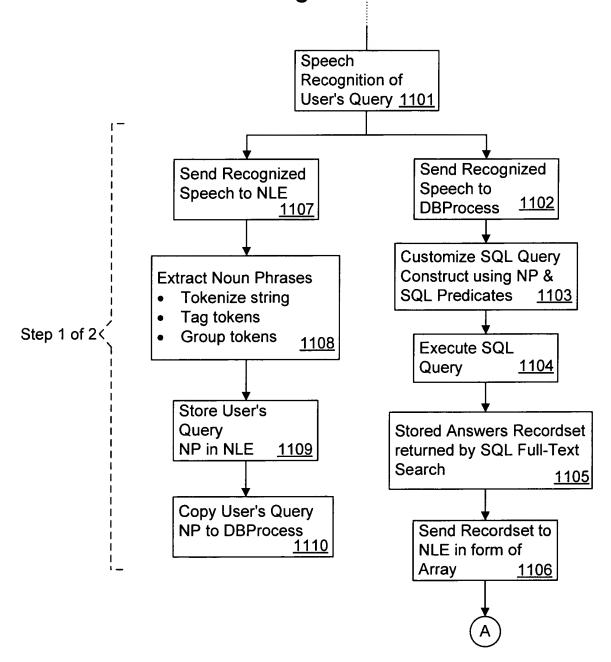




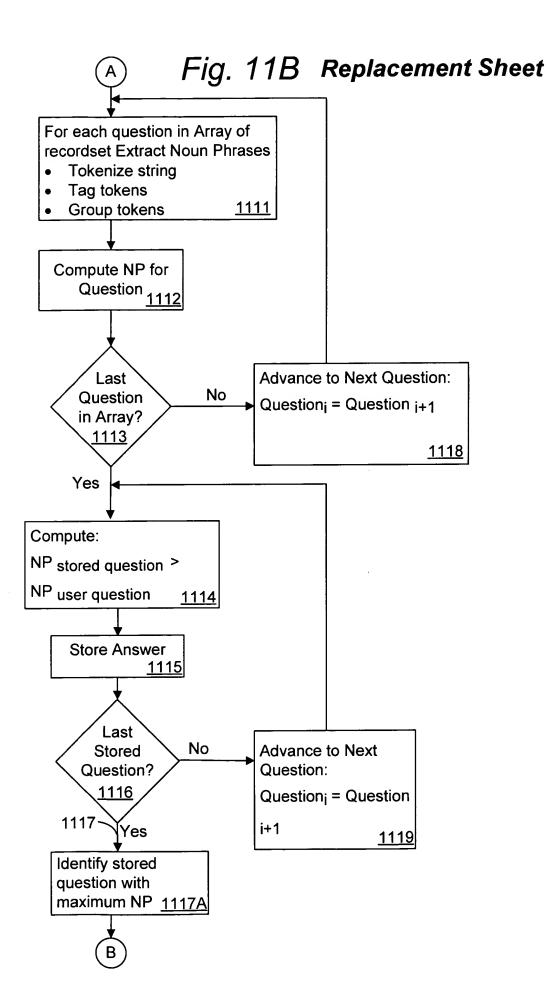


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Replacement Sheet Fig. 11A

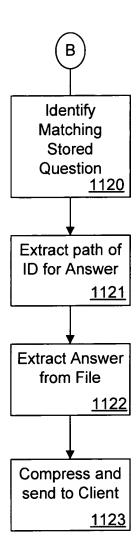


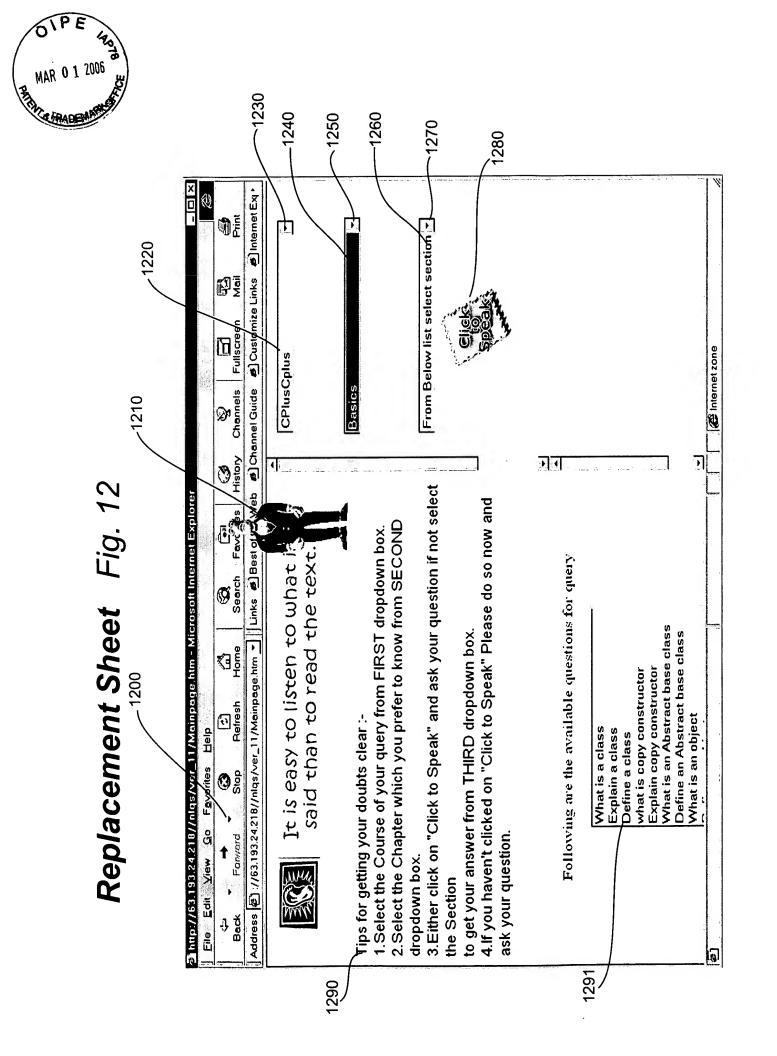




Replacement Sheet Fig. 11C

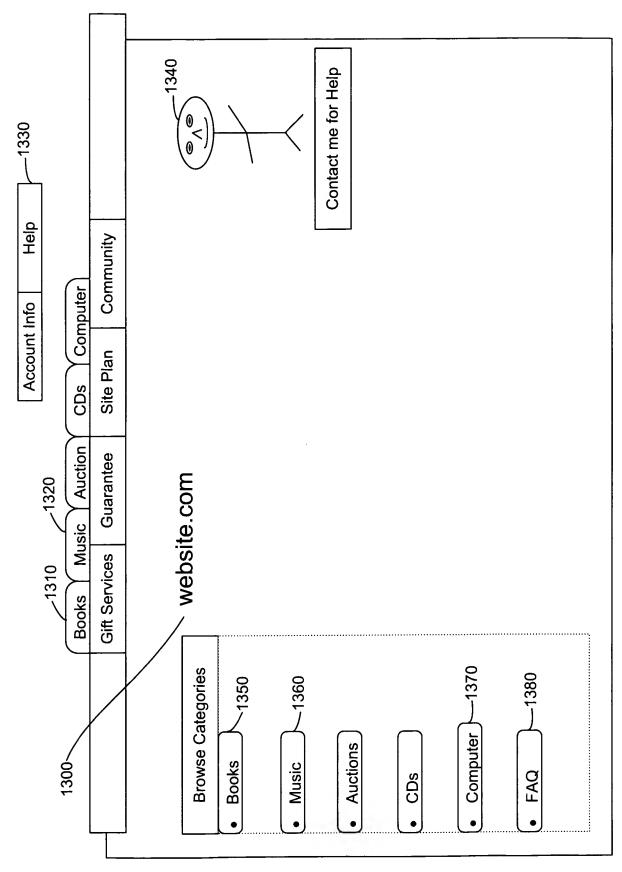
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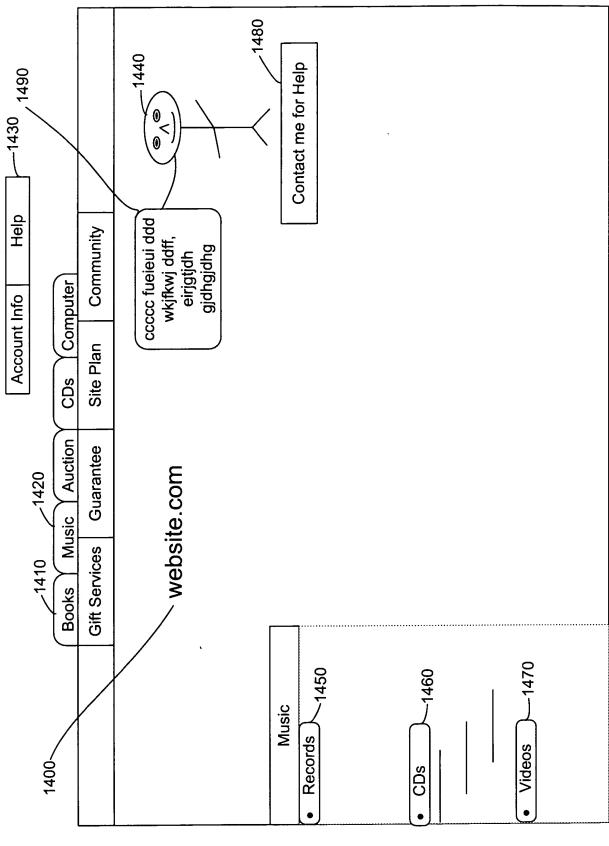


Replacement Sheet Fig. 13



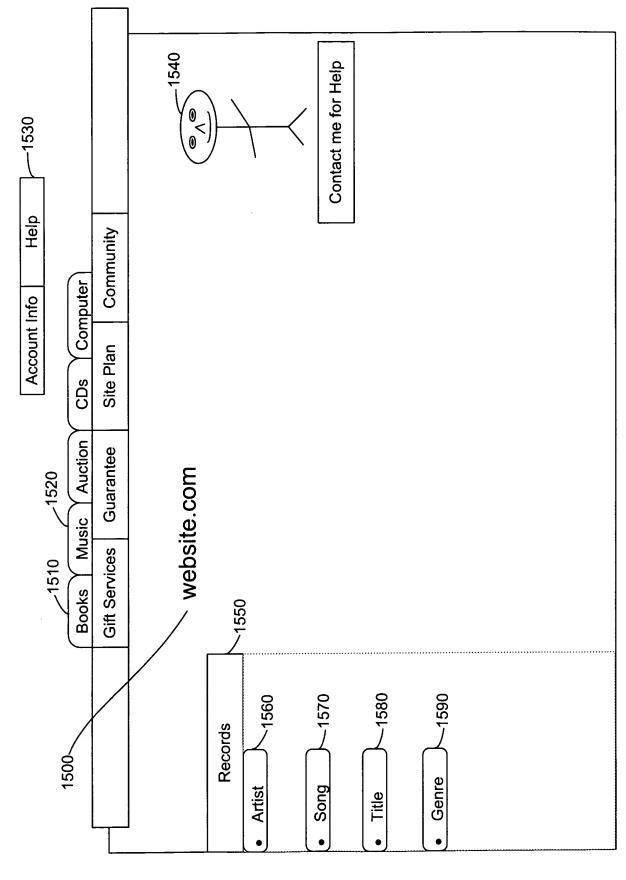


Replacement Sheet Fig. 14



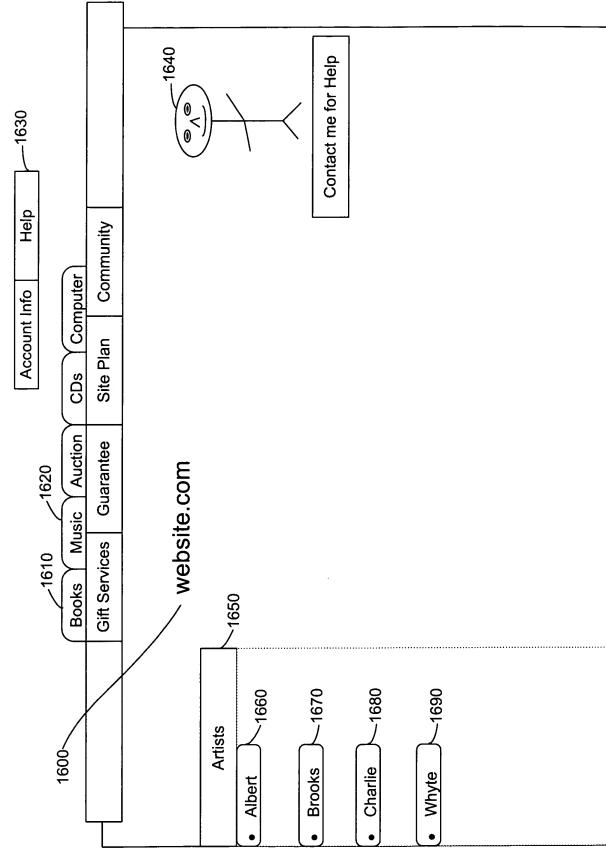


Replacement Sheet Fig. 15



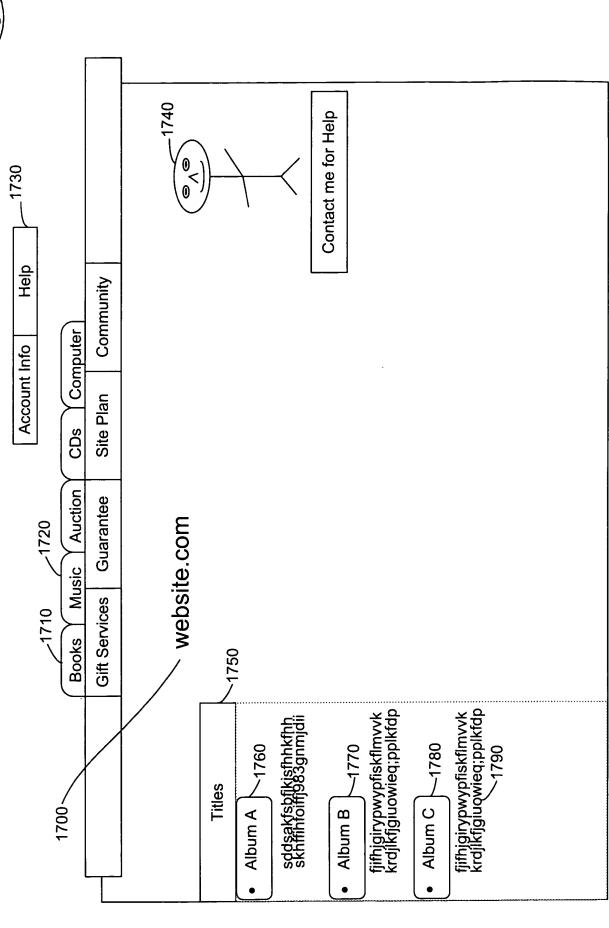


Replacement Sheet Fig. 16



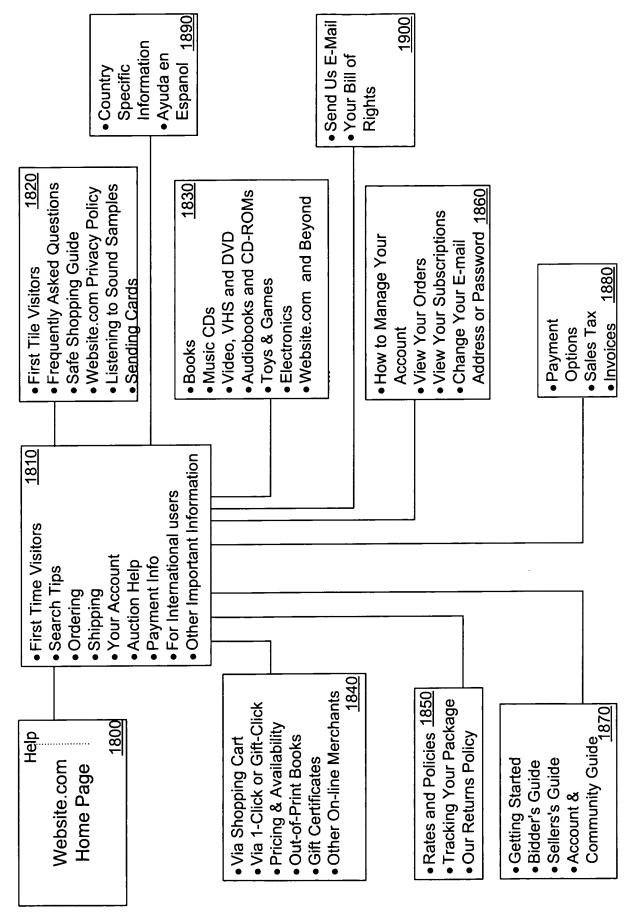


Replacement Sheet Fig. 17





Replacement Sheet Fig. 18 (Page 1/2)





Replacement Sheet Fig. 18 (Page 2/2)

